

**These are the Draft Plans of Emission Reduction Strategies for the B-C-D Region submitted for the  
December 10, 2003 Early Action Compact Milestone.**

Early Action Compact Milestone - December 2003  
List of Emission Reduction Strategies Under Consideration

**BERKELEY COUNTY**

According to the latest 8-hour ozone monitoring data, Berkeley County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Berkeley County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Berkeley County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
Awareness	Joined and currently participating in the SC Early Action Plan for 8-hour ozone	N/A	December 2002 (on-going effort)	Countywide
Awareness	Meet with SCDHEC staff and County staff to collect and disseminate information including ideas and suggestions that will attempt to maintain current attainment for County. Forwarded information to municipalities, the Water and Sanitation Authority and the school district within the County.	N/A	June and October 2003 (on-going effort)	Countywide
Awareness	Information for employees and public now available with applicable web links on the County's website	N/A	June 2003	Countywide (Potentially worldwide)
Awareness	Consider restricting (when applicable) mowing and interior/exterior painting days and times during ozone season/action days on County owned property.	N/A	During ozone "season"	County owned facilities
Awareness - Energy	Consider turning off lights and computers daily of County equipment (when applicable).	N/A	June 2003	County owned facilities
Awareness	Consider purchase of electric equipment used to maintain County owned properties.	N/A	As reasonably cost effective	County owned facilities

Awareness - Energy	Purchase “Green Power”	N/A	When reasonably cost effective	County owned facilities where available
Awareness - Energy	Best management practices in accordance with Energy Management Guidelines (AC control systems)	N/A	On-going effort	County owned facilities
Awareness - Energy	Participate in “Rebuild South Carolina” – County has participated in the past	N/A	When reasonably cost effective	Countywide
Ozone Action Coordinator	County staff person responsible for ozone education/outreach and dissemination of ozone standard.	N/A	March 2003 (on-going effort)	Countywide
Land Use	Zoning ordinance requires landscaped buffers between unlike uses that include trees and shrubs. Review ideas regarding interior lot landscaping requirements (parking lots).	N/A	August 2001 (on-going effort)	Unincorporated areas of County
Land Use	Cooperative initiative between County, Conservation District and Conservation Trust to endorse “Greenspace Initiative” that promotes the protection and conservation of recommended areas strictly on a voluntary basis.	N/A	September 2000 (on-going effort)	Countywide
Conservation	Implementation of “Greenspace Initiative” – promotion of the protection and conservation of properties in guidance with the plan established in September 2000.	N/A	September 2000 (on-going effort)	Countywide
Land Use	Encourage the development of non polluting industry	N/A	On-going effort	Countywide
Conservation	Promote and encourage the increased activity of recycling goods (plastics, metal, glass, etc.) through the Berkeley County Water & Sanitation Authority *	N/A	On-going effort	Countywide
Mobile Sources	Consider replacement of gasoline golf carts with electric – one has already been replaced.	N/A	When reasonably cost effective	Organizational
Mobile Sources	Evaluate the purchase and operation of alternative fuel vehicles and if feasible, set progressive goals for replacement of existing vehicles.	N/A	When reasonably cost effective	Organizational

Mobile Sources	Review County policies of scheduled maintenance of vehicles to ensure best management practices are being utilized to decrease the buildup of pollutants in engines.	N/A	On-going effort	Organizational
Mobile Sources	Support development of park and ride facilities within region	N/A	When reasonably cost effective	Regional
Mobile Sources	Evaluate the possibility of staggered work schedules to mitigate commuter traffic congestion	N/A	When reasonable	Countywide

\* Per Berkeley County Water and Sanitation Authority, the following includes a list of current and planned programs designed to conserve resources and improve air quality:

- The recycling of materials (tires, paper, glass, plastics, cooking oil, scrap metals, and motor oil).
- The Authority is actively involved in composting and providing educational programs for backyard composting.
- The installation of passive gas vents during the closure of the County's "Pre-Subtitle D Landfill". The Authority has also recently purchased flares for a pilot program to improve odors and air quality from the closed landfill. If the program is successful, additional flares will be purchased and installed.
- The Authority is currently in the preliminary planning stages for the installation of a landfill gas extraction system and potentially a landfill gas to energy (LFGTE) facility at its operational municipal solid waste landfill.

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## Charleston County

According to the latest 8-hour ozone monitoring data, Charleston County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Charleston County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Charleston County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Revised 12/03

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
<b>Appoint an Ozone Action Coordinator to alert media and public on high ozone days.</b>	Larry Hodge, Risk Manager, will monitor DHEC website, and coordinate with Jamie Thomas, PIO, to notify county departments when state levels are elevated; and with Radio Communication Manager to alert field employees. (Note: currently DHEC does not do forecasts for the Lowcountry.) Information also will be included on County website, for public access. When DHEC alerts are available for this area, Jamie will coordinate media notifications.	Not available	On-going beginning with 2003 Forecast Season	County-wide
<b>Add Ozone Alert to Emergency Information on County website.</b>	Public Information Office has added Ozone Danger information to Emergency Information section of County web-site ( <a href="http://www.charlestoncounty.org">www.charlestoncounty.org</a> ). Information links to DHEC Spare the Air Ozone Forecast and to EPA informational sites. Ozone reduction measures and information are included. It is to be noted that our website allows residents to conduct a great deal of County business on-line, thus eliminating vehicle trips to County office locations. E-business opportunities are being expanded constantly.	Not available	2003 Forecast Season - completed	County-wide
<b>Develop and implement an ozone public education plan.</b>	Charleston County, through its Public Information Office and Safety and Risk Management Office, will develop a comprehensive public information campaign related to health impacts of ground-level ozone, and strategies to reduce ozone producing emissions. This will address best driving practices, fueling, vehicle maintenance, lawn mowing, consumer education and other measures. If funding or private partnerships are identified, programs to test gas caps and provide replacements, or others, will be implemented. Information will be disseminated through newsletters, website, public service announcements and public events.		On-going beginning FY2004	County-wide.
<b>Expand use of hybrid cars.</b>	Charleston County currently has one hybrid car in its fleet, a Honda Civic used by the Solicitor (1.3-liter 4-cylinder gasoline engine with a 10-kilowatt electric motor). Fuel efficiency is estimated at 46/51 city/highway miles per		FY2005	County government

	gallon. It is proposed to introduce a pilot program to purchase or lease hybrid cars for use in the County motor pool. The goal of any program instituted may be to replace our existing pool inventory to the extent practical with hybrid vehicles. It is recognized such replacement would impact four cost centers: replacement, training, shop equipment and operating (parts) costs. Implementation will be dependent on commitment to and availability of funding. Procurement Director will work with Fleet Operations to study feasibility of implementing the pilot.			
<b>Purchase vehicles with high fuel economy.</b>	Charleston County may research implementation of a policy change to develop criteria for vehicle request approvals to include industry standards based on user requirements. Best fuel efficiency would be factored into specifications for vehicles to meet requirements. Use of SUVs, pick-up trucks and larger vehicles would be limited as practical.		Possible phase in as replacements requested beginning FY2005	County government
<b>As possible, purchase vehicles and light trucks to meet new standards on emissions.</b>	The EPA has announced more protective tailpipe emission standards for all passenger vehicles, including sport utility vehicles, vans and pick-up trucks. The agency also has developed lower standards for sulfur in gasoline which will require passenger vehicles to be significantly cleaner. Both take effect beginning in 2004. Charleston County may implement several initiatives to maximize the benefits of the availability of cleaner vehicles. New vehicles may be purchased, as needed, which meet the cleaner standards. This will include looking at what's available in Ultra Low Emission Vehicles for practical applications. The current policy of placing "replaced" vehicles into the motor pool may be modified to sell or dispose of the replaced vehicles while maintaining a limited motor pool of clean-burning or high fuel-efficiency vehicles. An initiative to pool administrative cars at major County office locations may be implemented to reduce overall fleet size. And finally, fleet fueling sites may be modified to include low-sulfur gasoline for use in vehicles with the technology to use it efficiently. A study of cost impacts would precede any implementation.		Phased in over five-year period	County government

<b>Purchase replacement diesel heavy-duty highway trucks, as needed, which comply with most recent EPA standards for PM and NOx emissions, and which utilize low sulfur diesel fuel.</b>	The EPA has developed heavy-duty engine and vehicle emission standards and highway diesel fuel sulfur control requirements which will take effect with the vehicle model year 2007. As funding is available, and as replacements are needed, Charleston County may procure clean-burning heavy-duty vehicles. This policy would be expanded to off-road heavy equipment as emission technology for those is improved.		Phased in as technology is available	County government
<b>As possible, convert to use of low-sulfur gasoline.</b>	It is recognized that sulfur provides lubricity for engine operation and that low-sulfur gasolines currently cannot be used effectively fleet-wide. As low-sulfur fuel is available locally, and we acquire vehicles with the technology to utilize it, we may add or convert tanks and pumps to supply it to our fleet. Cost impacts will be factored in to any implementation plan.		Phased in over five year period	County government
<b>Consider pilot/test of bio-diesel fuel for limited vehicle use.</b>	In conjunction with area fleets and diesel users (ex.: CARTA, school district), County fleet staff may test a B20 bio-diesel fuel in designated vehicles. A tank for joint use would be established in the Azalea Road area, filled by a local supplier with a soy-diesel mix. Cost subsidies are being investigated to promote this project. It is recognized that bio-diesel fuels increase lubricity and engine efficiency; and also lower particulate matter although increasing NOx emissions.		FY 05 or later; timeline dependent on cost subsidies	Regional area
<b>Develop Best Practices for diesel engine driving and fleet fueling.</b>	Working with involved departments, Fleet staff may formulate Best Operational Practices for driving and fueling County fleet, for consideration for promulgation. While these may be related to ozone reduction, they would be applicable throughout the year. They would encourage fueling early or late, limiting idling, frequent tire pressure checks, driving at the speed limit, no topping off gas tank, etc. Department heads would incorporate BOPs into operating procedures to the extent feasible.		FY2004	County government
<b>Addressing public transit options, pedestrian and bike</b>	Charleston County has adopted a comprehensive land use plan, which is updated every five years. As appropriate, this plan may encourage the development of mass transit		Ongoing	County-wide

<b>lanes and other planning strategies in comprehensive land-use planning.</b>	opportunities, trip reduction, and alternative transportation methods.			
<b>Modify lawn maintenance practices to discourage use of gas-powered engines during high ozone hours; and develop department guidelines to replace two-cycle small engines with four-cycle engine small equipment.</b>	Charleston County may take measures to modify lawn maintenance practices and utilization of small engine equipment so as to limit ozone-producing emissions. Most County lawn maintenance is under private contract. The RFP may be amended to include clean air practices during the next bidding cycle. Many departments maintain small engine equipment for specific purposes. Two-cycle equipment may be phased out over five years, to be replaced with four-cycle.		Phased in over five years	County-wide
<b>Expand in-house testing for gas and pollutant buildups in garages and other facilities; post signs in parking garages to discourage idling.</b>	Charleston County Safety and Risk Management currently tests facilities for air quality. Testing will continue as appropriate, with parameters added for CO, NOx and VOCs. It is to be noted that as a result of such testing, diesel forklifts have been replaced by propane powered forklifts in our recycling center and other locations. Signs may be posted in County owned parking garages as an awareness and education measure, to ask users to limit idling.		FY2004	County facilities
<b>Employ building energy conservation measures.</b>	With the use of technology, Charleston County's Facilities Management team currently employs energy conservation measures at its high use facilities (the Public Services Building, Judicial Center, County Office Building, Charleston Center, Main Library, and the Historic Courthouse) by scheduling down time of utilities when unoccupied or reducing utility services when not required. This program will be expanded to include all Regional Libraries and any new large facilities coming on line. We are currently installing an HVAC control system in the Otranto Regional Library. Also the new Johns Island Regional Library will have this capability when construction is completed. Where ever possible, new energy efficient light bulbs (T-8s and low pressure sodium)		FY2004 and ongoing	County facilities

	are being used. Energy audits will be conducted for our large facilities either in-house or by contract. We will use premium efficient components when replacement parts are required for condensers, compressors, hot water heaters, motors, etc.			
<b>Promote ride-sharing and use of public transit</b>	Charleston County may develop a strategy to promote the use of ride-sharing and use of public transit by County employees. This may include putting a ride-match page on our intranet site, and petitioning CARTA to add a bus stop at our Public Services Building. We further will investigate opportunities to create a park and ride location, in cooperation with CARTA and private property owners. Facilities Management may identify bike security areas at our large facilities to encourage bike ridership by County employees.		Ongoing, beginning FY2004	All County employees
<b>Study and implement flex hours and telecommuting.</b>	Charleston County may investigate opportunities to expand the practice of flexible hours, which is currently utilized by some departments. This would reduce traffic congestion and vehicle emissions created by all employees arriving and leaving at the same time. We also may consider some opportunities for working at home or off-site locations for appropriate projects. Both initiatives would require keen attention to maintaining a high quality of service to our citizens and community.		On-going, beginning FY2004	Departments and projects as appropriate
<b>Formation of regional stakeholders group.</b>	Charleston County is meeting with BCD Council of Governments, Berkeley and Dorchester Counties, urban and rural transportation authorities, Clemson Extension, MUSC, school districts, area industry, environmental groups and others. Ongoing discussions center on education, transportation, intermodal/alternative transportation strategies, advanced technology vehicles, alternative fuels, etc.	Not available	On-going, beginning FY2004	Tri-County area (Berkeley, Charleston, Dorchester)



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Dorchester County

According to the latest 8-hour ozone monitoring data, Dorchester County should remain attainment for the 8-hour ozone standard. However, in an effort to assist other areas in South Carolina and in the interest of public health and the environment, in December 2002, Dorchester County agreed to participate in the 8-hour ozone early action process. Therefore, based on stakeholder consultation and taking into consideration resource and political constraints, the following emission reduction strategies remain under consideration. Dorchester County will continue to evaluate the air quality within the county and may implement one or more of the following measures under consideration.

Measure under consideration	Detailed description of measure	Current assessment of emission reductions	Proposed date for implementation	Geographic area and/or local government
1. Stakeholders Groups	Continue with Local and Regional Stakeholders Groups to remain current with citizen concerns and who may be experimenting with new ozone technology developments.	N/A	These programs have been in existence since April 2003.	Local and Tri-county area.
2. CHATS support.	The Charleston Area Transportation Study Group continues to establish SCDOT priorities for the Tri-county area. Dorchester County will continue to support those programs to reduce ozone. e.g. Mass Transit initiatives, "Park & Ride" programs, more "walk and bike trails" and initiatives that promotes car pooling.	N/A	CHATS has been active for over a decade. It is not likely to change in the immediate future.	Tri-county area.
3. Government sets the example.	Study to promote more telecommute positions, provide incentives for car pooling when assigning parking spaces. Stagger work hours for employees to avoid rush hour traffic. Continue with flex-work schedules and 4 day work week. Establish policies to encourage pooling of lunch orders from same vender. Study County owned vehicle schedule to shuttle personnel between upper and lower county. Promote high-bred "alternative fuel" vehicles i.e. electric, bio-diesel, LP gas, ethanol etc. for vehicle fleet operations.	N/A	This measure is an attempt to modify regulations and behavior over a period of time. Some of these practices have already been adopted.	Local Community.

4. Solicit the schools to help in the education process.	There are short courses available to be introduced into the syllabus to discuss health hazards and other dangers of ground level ozone. Request Journalism students and/or English students to write articles about the dangers of ozone to be published in the local newspapers. Students encouraged to produce Educational video for television discussing the ozone issues.	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.
5. Schools to review existing policies.	Student Transportation policy to be reviewed: more sidewalks and fewer parking spaces. Driving privileges for those students making grades. Assigned parking for only those students with exceptional need to drive. Minimal fee should be charged for cost of security cameras and police personnel in the parking areas. All others must use bus. Construction of schools will include sidewalks and bike trails on all major arteries within a mile radius of the school. Establish rules for vehicle idle times for those waiting for students to be released. (Parents vehicles and busses.)	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.
6. Educate the Public as to "What is OZONE?"	TV News and Meteorologists will broadcast existing and forecast Ozone conditions. In addition, they will provide recommendations for their audience similar to their current hurricane readiness announcements.	N/A	This program is scheduled to start in May 2004.	Local Community.
7. Educate the Public as to "What is OZONE?"	An OZONE tent will become a part of the festivals and fairs in the local area to pass out brochures and tracts about ozone. Various contests and prizes can be awarded to stimulate interest.	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.
8. Educate the Public as to "What is OZONE?"	A traveling lecturer will visit hospitals, Nursing Homes, Senior Citizen Centers to educate those who are most at-risk. Recommend minimum outdoor activity during periods of high ozone.	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community.

9. Educate the Public as to "What is OZONE?"	Publish brochure of house-hold tips to reduce ozone. Schedule mowing and fueling vehicles in early morning or late afternoon to avoid the high ozone period. Select electric operated equipment and avoid gas operated landscape equipment.	N/A	This program will be initiated when EPA designates Dorchester County as borderline attainment.	Local Community
10. Planning for future green spaces.	Tree and Landscape Ordinances should encourage use of more deciduous shade trees and fewer pine trees. SC DOT should be required to provide landscaped medians. Industrial developers should be required to provide a landscape plan for the entire site. Commercial builders should landscape parking lots and entrances. Residential builders should avoid strip clearing and have a minimum landscape requirement for treed streets, landscaped entrances and a minimum landscape requirement for each lot.	N/A	Some of these programs are currently in existence. We can do better.	Local Community.
11. Planning for a future with fewer vehicles.	Communities are planned with a grocery/drug/hardware stores within walking distance from homes. Promote mixed zoning, i.e. stores with residential spaces on the upper floors. Encourage more sidewalks and bike trails. Cluster development, Smart Growth, PUD's, mass transit, energy efficient building materials, fuel efficient vehicles, should be encouraged.	N/A	Comprehensive Plan for Government agencies already includes these ideas. Promote adoption of these ideas in future ordinances.	Local Community